

$^9\text{Be}(^{40}\text{Si}, ^{39}\text{Al}\gamma)$ 2014St18

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jun Chen	NDS 149, 1 (2018)	1-Jan-2018

2014St18: E=79 / MeV/nucleon ^{40}Si secondary beam was produced by fragmentation of 140 MeV/nucleon ^{48}Ca primary beam with a ^9Be production target, followed by purification in A1900 fragment separator at NSCL-MSU facility. Secondary ^9Be target was 376 mg/cm² thick. Reaction residues were identified by an ionization chamber in the focal plane of S800 spectrograph; time-of-flight was measured by a plastic scintillator; γ rays were detected with the GRETINA array of Ge detectors. Measured E_γ , I_γ , $\gamma\gamma$ -coin, $(^{39}\text{Al})\gamma$ -coin. Deduced levels, J, π . Comparison with large-scale shell model calculations.

All data are from **2014St18**.

 ^{39}Al Levels

E(level)	J π	Comments
0	(5/2 ⁺)	J π : from shell-model predictions (2014St18). Total knockout $\sigma=8$ mb 2. Partial knockout $\sigma=5$ mb 2.
800 8		Partial knockout $\sigma=0.9$ mb 4.

 $\gamma(^{39}\text{Al})$

E_γ	I_γ	$E_i(\text{level})$	E_f	J π_f	Comments
^x 764 8	10 4				
800 8	12 4	800	0	(5/2 ⁺)	
^x 883 8	9 4				
^x 995 8	1 2				E_γ : tentative γ ray (2014St18).

^x γ ray not placed in level scheme.

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Level Scheme

Intensities: Yield/100 ions

